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10/566,643	10/09/2007	Steven Kenneth Cook	102792-512 (11282P1 US)	9139
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,643	Applicant(s) COOK ET AL.	
	Examiner AMJAD ABRAHAM	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/30/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **The limitation “post-extrusion enhancement” is unclear. Examiner has interpreted this limitation to indicate any post extrusion change to the extrudant. For example post extrusion cooling or cutting.**

3. Claims 13-14 recite the limitation "binder" in claim 13 (line 2) and claim 14 (line 2). There is insufficient antecedent basis for this limitation in the claim.

4. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **Applicant has cancelled all patentable matter.**

5. Claim 23 provides for the use of the tablet for washing clothing (detergent), but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 23 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5, 7-9, 15-16, 20, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Raehse et al. (USP No. 5,382,377).

2. Regarding claim 1, Raehse teaches a process for producing a cleaning composition **(detergent)** tablets via extrusion. **(See abstract)**.

a. Comprising the steps

i. Forming of a premix which contains a cleaning composition particulate **(homogeneous detergent premix)** and a lubricant. **(See abstract and column 2 lines 58-67 disclosing that the premix is solid**

particalized detergents with additional liquid ingredients that may be a plasticizer and/or a lubricant.)

ii. Adding the premix into an extruder. **(See column 2 lines 45-47, disclosing the addition of the premix into an extruder. Inherently, all extruders must have at least one feed port for the premix of material to be extruded.)**

iii. Extruding the premix once in the extruder. **(See column 2 lines 45-47 describing an extrusion process with a perforated die for extruding the detergent strands.)**

iv. And finally cutting the detergent strands into tablets. **(See column 2 lines 55-57).**

3. Regarding claim 2, Raehse teaches the additional step of adding a plasticizer/lubricant **(which acts as a binder material)** to a detergent composition **(pre-mix)**. Raehse goes on to teach that the plasticizer/lubricant to be added; can be solid at room temperature and mixed with the premix while in the form of a liquid. **(See column 2 line 58 to column 3 line 46)**

b. See specifically column 3 lines 1-10 disclosing that the plasticizers and/or lubricants can be paste-like **(Solid)** at room temperature.

c. See specifically column 3 lines 1-10 and 10-23 disclosing that the plasticizers/lubricants **(binder)** can be liquid phase.

d. Raehse teaches that surfactants and/or polymers can be used as plasticizers/lubricants. **(See column 3 lines 24-35).** Furthermore, Raehse

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teaches that the surfactant components act as binder-like surface layers that is responsible for the cohesion of the granules. **(See column 3 lines 36-46).**

4. Regarding claims 3-5, Raehse teaches that the extrusion pressure is between 25 to 200 bars **(2.5 to 20 MPa).**

5. Regarding claims 7 and 8, Raehse teaches that the strand is subjected to a post-extrusion enhancement process such as post-extrusion cooling. **(See column 5 lines 60-67 disclosing that the strands are cooled post extrusion and column 2 line 57 disclosing that the strands can be cut post extrusion.)**

6. Regarding claim 9, Raehse teaches wherein the material mixed within the twin screw extruder at a temperature of 60 to 70C and as low as 40C. **(See column 5 lines 8-21)**

7. Regarding claim 15, Raehse teaches a process for producing a cleaning composition **(detergent)** tablets via extrusion. **(See abstract).**

e. Comprising the steps

v. Forming of a premix which contains a cleaning composition particulate **(homogeneous detergent premix)** and a lubricant. **(See abstract and column 2 lines 58-67 disclosing that the premix is solid particalized detergents with additional liquid ingredients that may be a plasticizer and/or a lubricant.)**

vi. Adding the premix into an extruder. **(See column 2 lines 45-47, disclosing the addition of the premix into an extruder. Inherently, all**

extruders must have at least one feed port for the premix of material to be extruded.)

vii. The additional step of adding a plasticizer/lubricant **(which acts as a binder material)** to a detergent composition **(pre-mix)**. Raehse goes on to teach that the plasticizer/lubricant to be added; can be solid at room temperature and mixed with the premix while in the form of a liquid. **(See column 2 line 58 to column 3 line 46)**

(1) See specifically column 3 lines 1-10 disclosing that the plasticizers and/or lubricants can be paste-like **(Solid)** at room temperature.

(2) See specifically column 3 lines 1-10 and 10-23 disclosing that the plasticizers/lubricants **(binder)** can be liquid phase.

(3) Raehse teaches that surfactants and/or polymers can be used as plasticizers/lubricants. **(See column 3 lines 24-35).**

Furthermore, Raehse teaches that the surfactant components act as binder-like surface layers that is responsible for the cohesion of the granules. **(See column 3 lines 36-46).**

viii. The extrusion pressure is between 25 to 200 bars **(2.5 to 20 MPa)**.

ix. Extruding the premix once in the extruder. **(See column 2 lines 45-47 describing an extrusion process with a perforated die for extruding the detergent strands.)**

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x. And finally cutting the detergent strands into tablets. **(See column 2 lines 55-57).**

8. Regarding claim 16, Raehse teaches a process for producing a cleaning composition **(detergent)** tablets via extrusion. **(See abstract).**

f. Comprising the steps

xi. Providing a premix which contains a cleaning composition particulate **(homogeneous detergent premix)** and a lubricant. **(See abstract and column 2 lines 58-67 disclosing that the premix is solid particulated detergents with additional liquid ingredients that may be a plasticizer and/or a lubricant.)** and adding the premix into an extruder. **(See column 2 lines 45-47, disclosing the addition of the premix into an extruder. Inherently, all extruders must have at least one feed port for the premix of material to be extruded.)**

xii. The additional step of mixing a plasticizer/lubricant **(which acts as a binder material)** to a detergent composition **(pre-mix)**. Raehse goes on to teach that the plasticizer/lubricant to be added; can be solid at room temperature and mixed with the premix while in the form of a liquid. **(See column 2 line 58 to column 3 line 46)**

(4) See specifically column 3 lines 1-10 disclosing that the plasticizers and/or lubricants can be paste-like **(Solid)** at room temperature.

(5) See specifically column 3 lines 1-10 and 10-23 disclosing that the plasticizers/lubricants **(binder)** can be liquid phase.

(6) Raehse teaches that surfactants and/or polymers can be used as plasticizers/lubricants. **(See column 3 lines 24-35).**

Furthermore, Raehse teaches that the surfactant components act as binder-like surface layers that is responsible for the cohesion of the granules. **(See column 3 lines 36-46).**

(7) **The mixing is done via a twin screw extruder as inherently a shear force will be applied to the premix and binder mixture.**

xiii. The extrusion pressure is between 25 to 200 bars **(2.5 to 20 MPa).**

xiv. Extruding the premix once in the extruder. **(See column 2 lines 45-47 describing an extrusion process with a perforated die for extruding the detergent strands.)**

xv. And finally cutting the detergent strands into tablets. **(See column 2 lines 55-57).**

9. Regarding claim 20, Raehse teaches a method for aiding the flow of inorganic cleaning or water-softening particulate in an extruder which method comprises the step of: providing a lubricant to the extruder. **(See abstract)**

10. Regarding claim 22, Raehse teaches the method used to make the similar tablet. Inherently any tablet made from the process in claim 1 would lead to a tablet with the specific features of having a smooth skin and a core of consolidated particular texture.

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- g. Where the claimed and prior art products are identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of anticipation or obviousness has been established. *In re best*, 562 F.2d. 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Also see MPEP 2112.01 (I and II)
11. Regarding claim 23, Raehse teaches the use of the tablet as a detergent. **(See abstract)**. Detergent is commonly used to wash clothing by adding water to the detergent.
12. Claims 1, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Barford et al. (USP No. 4,460,490).
13. Regarding claim 1, Barford teaches
- h. Forming a mixture of ingredients for forming a lavatory cleansing block. **(See abstract, column 4 lines 57-67, and examples 18-22 (column 11 and 12)--> disclosing that a premixed set of ingredients are fed into an extruder. Furthermore, a lubricant or a binder can be added such as sodium stearate-> see column 8 lines 22-29).**
- i. Add the premix to an extruder. **(Column 4 lines 57-67).**
- j. Extruding. **(Column 4 lines 57-67).**
- k. Cutting during a post-extrusion enhancement step. **(See column 4 line 60).**

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14. Regarding claim 17, Barford teaches the addition of a lubricant to the ingredients prior to being fed into the extruder. **(See abstract, column 4 lines 57-67, and**

examples 18-22 (column 11 and 12)

15. Regarding claim 20, Barford teaches the addition of a lubricant to the extruder.

(See abstract, column 4 lines 57-67, and examples 18-22 (column 11 and 12)-->

disclosing that a premixed set of ingredients are fed into an extruder.

Furthermore, a lubricant or a binder can be added such as sodium stearate--> see column 8 lines 22-29).

16. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Hoffmann et al. (US Pre-Grant Publication 2002/0015730 A1).

17. Regarding claim 24, Hoffmann teaches a method of lubricating a particulate material, the method comprising the step of: mixing a sucrose ester, with a particulate material. **(See paragraph [0044] disclosing that sucrose esters can act as a**

lubricant and are suitable for granulating)

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
20. Claims 6, 10, 13, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raehse et al. (USP No. 5,382,377).

21. Regarding claim 6, Raehse teaches the use of a twin-screw extruder. **(See column 5 lines 30-35).**

I. With respect to claim 6, Raehse does not expressly teach wherein the twin screw extruder has screw overlap **(essentially the screws are intermeshing)** and that the extruder is configured to advance the extrudant.

xvi. However, it is well known in the art that a twin screw extruder can be used to meter or mix an extrudant material. It is well known in the art of twin screw extruding that the screws can be intermeshing or non-intermeshing. An intermeshing screw has screw overlap and this overlap can be modified in order to minimize the shearing action that takes place between the rotating screws. Because of this, claim 6 would have been obvious to one having the ordinary skill in the art because a person of ordinary skill has good reason to pursue known options within his or her technical grasp. In this case, it would have been obvious to try an intermeshing screw with minimal screw overlap because using a twin

screw for metering rather than shearing is a common endeavor solved by altering the intermeshing screws.

22. Regarding claim 10, Raehse discloses wherein the lubricant is fluid at room temperature. **(See column 3 lines 1-10).**

m. However, Raehse while does not explicitly disclose wherein the lubricant is liquid, this would have been obvious. When describing a material as fluid it is likely that the material will be gas phase fluid or liquid phase fluid. However, it would be unlikely that a gaseous phase lubricant would be used in an extruder because the lubricant is supposed to intermingle with the solid particulate and facilitate a free flowing premix. Therefore, it would have been obvious to use a liquid lubricant.

23. Regarding claim 13, Raehse discloses wherein the surfactant that acts like a binder-like substance is typically a paste-like or gel-like substance. **(See column 3 lines 29-46)**

n. With respect to claim 13, Rae does not expressly state that the binder is molten under extrusion conditions.

xvii. However, it would have been obvious to ensure that the binder was molten during extrusion because it is well known in the art that there is severe wear and tear on an extruder that attempts to extrude any material that is not in a molten state.

24. Regarding claim 17, Raehse does not explicitly teach the further step of: mixing a lubricant with the cleaning or water-softening composition particulates to make a premix

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which is subsequently fed into the extruder. **(However, it would have been obvious to do so as a mere design choice. It is conventional in the art of extruder technology to premix all components prior to introduction into an extruder. This would have been done to achieve a uniform mixing.)**

25. Claims 11-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raehse et al. (USP No. 5,382,377) in view of Hoffmann et al. (US Pre-Grant Publication 2002/0015730 A1).

26. Regarding claims 11 and 12, Raehse does not explicitly teach: (1) wherein the lubricant comprises a sucrose ester or a sorbitan ester and (2) wherein the lubricant comprises a sucrose oleate.

o. However, Hoffmann teaches: (1) wherein the lubricant comprises a sucrose ester. **(See paragraph [0044] disclosing that sucrose esters can act as a lubricant and are suitable for granulating)** and (2) wherein the lubricant comprises a sucrose oleate. **(See paragraph [0057] disclosing the use of sucrose oleates with sucrose esters).**

p. Raehse and Hoffmann are from the same field of endeavor which is making tablets by adding a lubricant/binder to facilitate tablet formation. At the time of the invention, it would have been obvious to one having the ordinary skill in the art, having the teachings of Raehse and Hoffmann before him or her, to modify the teachings of Raehse to include the teachings of Hoffmann for the benefit of utilizing a lubricant as a mold release (See paragraph [0035]). It is submitted that it is common knowledge to use lubricants such as sucrose esters

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in extrusion processes to control frictional properties of the plasticized materials.

Furthermore, sucrose ester is a nonionic surfactant (see paragraph [0045]) which is a well known suitable lubricant in extrusion operations. Moreover, Raehse identifies that nonionic surfactants can be used as lubricants. **(See column 3 lines 1-10 in Raehse).**

27. Regarding claim 14, Raehse does not explicitly teach wherein the binder is polyethylene glycol.

q. However, Hoffmann teaches wherein the binder is polyethylene glycol.
(See paragraph [0035])

r. It is well known in the art of extrusion to use PEG as a binder. Therefore, it would have been obvious to use PEG as a binder to facilitate cohesion of the premix particulates.

28. Claim 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raehse et al. (USP No. 5,382,377) in view of Harper et al. (Modern Plastics Handbook-McGraw-Hill (2000)).

29. Regarding claim 18, Raehse teaches

s. Extruding a strand which is separated into tablets or tablet precursors shortly after their extrusion, either as-extruded or optionally, subjecting the strand to a post-extrusion enhancement prior to separating the strand into tablets or tablet precursors. **(See column 2 lines 53-58).**

t. However, Raehse does not teach

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xviii. advancing a pasty or plastic cleaning or water-softening composition in an intermeshing twin screw extruder

u. With respect to claim 18, Harper teaches that it is well known to advance a composition of plastic via an intermeshing twin screw extruder. **(See page 5.47 disclosing that the most used twin screw extruder configurations are nonintermeshing, fully intermeshing counter-rotating, and fully intermeshing co-rotating.)**

xix. It would have been obvious to use an intermeshing twin screw extruder as it is a well known screw configuration.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references; Holdt et al (USP No. 4,578,207), Lewis (USP No. 4,092,388), McGregor et al. (USP No. 6,177,393), and Jacques Kamiel Thoen et al. (USP No. 6,548,473).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMJAD ABRAHAM whose telephone number is (571)270-7058. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM Eastern Time.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AAA

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791